

Listing of Claims

This Listing of Claims replaces all previous listings and versions of claims:

1-36. (Cancelled)

37. (Previously Presented) A method for the anaerobic digestion of high-solids waste, the method comprising:

providing a closed container including

a first passage in which the waste material flows in a first direction, the first passage having first and second ends, the first end including an inlet for waste material, and

a second passage in which the waste material flows in a second direction opposite the first direction, the second passage having first and second ends, the second end including an outlet, the first passage being separated from the second passage by a divider, the second end of the first passage being adjacent the first end of the second passage, and the first end of the first passage being adjacent the second end of the second passage; and

using a heating device positioned in the first or second passage to induce the high-solids waste to move in a corkscrew-like fashion through at least one of the first passage and the second passage;

further comprising using gas to facilitate the corkscrew-like flow path.

38. (Previously Presented) The method of claim 37, wherein the heating device comprises heating pipes to enhance convection and facilitate the corkscrew-like flow path.

39. (Previously Presented) A method for the anaerobic digestion of high-solids waste, the method comprising:

providing a closed container including

a first passage in which the waste material flows in a first direction, the first passage having first and second ends, the first end including an inlet for waste material, and

a second passage in which the waste material flows in a second direction opposite the first direction, the second passage having first and second ends, the second end including an outlet, the first passage being separated from the second passage by a divider, the second end of the first passage being adjacent the first end of the second passage, and the first end of the first passage being adjacent the second end of the second passage; and

using a heating device positioned in the first or second passage to induce the high-solids waste to move in a corkscrew-like fashion through at least one of the first passage and the second passage;

wherein the first passage and the second passage are separated by a center wall, the container has outside walls, and the center wall and outside walls are substantially planar and vertical.

40. (Previously Presented) The method of claim 39, wherein the heating device is positioned adjacent the center wall, and the heating device provides convective forces that cause heated sludge to rise near the center wall, while sludge near the relatively cooler outer wall falls under convective forces.

41. (Previously Presented) The method of claim 39, wherein the heating device is positioned adjacent one of the outside wall, and the heating device provides convective forces that cause heated sludge to rise over the outside wall, while sludge near the relatively cooler center wall falls under convective forces.

42. (Previously Presented) The method of claim 40, wherein the heating device includes a conduit having at least one gas outlet positioned to promote upward movement of the heated waste material utilizing recycled biogas.

43. (Previously Presented) The method of claim 37, wherein the heating device includes a conduit having at least one gas outlet positioned to promote upward movement of the heated waste material utilizing recycled biogas.

44. (Previously Presented) The method of claim 37, wherein the heating device contains a heating medium.

45. (Previously Presented) The method of claim 44, wherein the heating medium comprises water.

46. (Previously Presented) The method of claim 44, wherein the heating medium comprises a gas.

47-49. (Cancelled)

50. (Cancelled)

51. (Previously Presented) A method for the anaerobic digestion of high-solids waste, the method comprising:

positioning a liquid diffuser or gas diffuser in an anaerobic digestion container; and

using the diffuser to move the high-solids waste in a corkscrew-like flow path through at least a portion of the container, wherein a first passage and a second passage are separated by a center wall, the container has outside walls, and the center wall and outside walls are substantially planar and vertical.

52. (Previously Presented) The method of claim 51, wherein the diffuser is positioned adjacent the center wall, and the diffuser provides forces that cause sludge to rise near the center wall, while sludge near the outer wall falls.

53. (Previously Presented) The method of claim 51, wherein the diffuser is positioned adjacent one of the outside walls and the diffuser provides forces that cause sludge to rise near the outer wall, while sludge near the center wall falls.